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Fluke 116
HVAC Multimeter
with Temperature and Microamps

Technical Data

Actual size

Compact true-rms meter for HVAC troubleshooting

The Fluke 116 was specifically designed for the HVAC professional. It has everything needed in an HVAC meter including temperature and microamp measurements to quickly troubleshoot problems with HVAC equipment and flame sensors.

Features include:

- Built in thermometer for HVAC applications
- Microamps to test flame sensors
- LoZ: helps prevent false readings due to ghost voltage
- Large white LED backlight to work in poorly lit areas
- Resistance, continuity, frequency and capacitance
- Min/Max/Average with elapsed time to record signal fluctuations
- Compact ergonomic design for one-handed operation
- Compatible with optional magnetic hanger (ToolPak™)
- CAT III 600 V safety rated

General specifications

Accuracy is specified for 1 year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 90 %.
The accuracy specifications take the form of:
± ([% of reading] + [counts])

Maximum voltage between any terminal and earth ground	600 V
Surge protection	6 kV peak per IEC 61010-1 600 V CAT III, Pollution Degree 2
Display	Digital: 6,000 counts, updates 4/sec
Bar graph	33 segments, updates 32/sec
Operating temperature	-10 °C to + 50 °C
Storage temperature	-40 °C to + 60 °C
Battery	9 volt Alkaline, NEDA 1604A/ IEC 6LR61
Battery life	400 hours typical, without backlight

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Accuracy specifications

Measurement	Range	Resolution	Accuracy ± ([% of reading] + [counts])
DC millivolts	600.0 mV	0.1 mV	0.5 % + 2
DC volts	6.000 V	0.001 V	0.5 % + 2
	60.00 V	0.01 V	
	600.0 V	0.1 V	
Auto volts	600.0 V	0.1 V	2.0 % + 3 (dc, 45 Hz to 500 Hz) 4.0 % + 3 (500 Hz to 1 kHz)
AC millivolts[1] true-rms	600.0 mV	0.1 mV	1.0 % + 3 (dc, 45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
AC volts[1] true-rms	6.000 V	0.001 V	1.0 % + 3 (45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
	60.00 V	0.01 V	
	600.0 V	0.1 V	
Continuity	600 Ω	1 Ω	Beeper on < 20 Ω off > 250 Ω; detects opens or shorts of 500 µs or longer.
Ohms	600.0 Ω	0.1Ω	0.9 % + 2
	6.000 kΩ	0.001 kΩ	0.9 % + 1
	60.00 kΩ	0.01 kΩ	
	600.0 kΩ	0.1 kΩ	
	6.000 MΩ	0.001 MΩ	
	40.00 MΩ	0.01 MΩ	1.5 % + 2
Diode test	2.000 V	0.001 V	0.9 % + 2
Capacitance	1000 nF	1 nF	1.9 % + 2
	10.00 µF	0.01 µF	
	100.0 µF	0.1 µF	
	9999 µF	1 µF	
	100 µF to 1000 µF		1.9 % + 2
	> 1000 µF		5 % + 20
Lo-Z capacitance	1 nF to 500 µF		10 % + 2 typical
Temperature[2] (Type-K thermocouple)	-40 °C to 400 °C	0.1 °C	1 % + 1[2]
	-40 °F to 752 °F	0.2 °F	1 % + 18[2]
AC µamps true-rms (45 Hz to 500 Hz)	600.0 µA	0.1 µA	1.5 % + 3 (2.5 % + 3 > 500 Hz)
DC µamps	600.0 µA	0.1 µA	1.0 % + 2
Hz (V or A input)[3]	99.99 Hz	0.01 Hz	0.1 % + 2
	999.9 Hz	0.1 Hz	
	9.999 kHz	0.001 kHz	
	50.00 kHz	0.01 kHz	

Notes:

[1] All ac voltage ranges except Auto-V/LoZ are specified from 1 % to 100 % of range. Auto-V/LoZ is specified from 0.0 V. Because inputs below 1 % of range are not specified, it is normal for this and other true-rms meters to display non-zero readings when the test leads are disconnected from a circuit or are shorted together. For volts, crest factor of ≤ 3 at 4000 counts, decreasing linearly to 1.5 at full scale. AC volts is ac-coupled. Auto-V LoZ, and ac mV are dc-coupled.

[2] Temperature uncertainty (accuracy) does not include the error of the thermocouple probe.

[3] Frequency is ac coupled, 5 Hz to 50 kHz for ac voltage. Frequency is dc coupled, 45 Hz to 5 kHz for ac current.

Ordering information

Fluke-116 HVAC Multimeter with Temperature and Microamps

Included
TL75 Test Leads, 80BK Integrated Temperature Probe, holster, User's manual and 9 V battery (installed).

Fluke. *Keeping your world up and running.*™

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